

Revision of the species of *POLYPHYLLA* of the United States.

BY GEORGE H. HORN, M. D.

The generic characters of *Polyphylla* have been so often given that it is unnecessary to repeat them here. In the "Check List," Mr. Crotch has separated our species from those of Europe under the name of *Macranoxia*, but no reason is apparent to me for such a course.

The males are much more abundantly found than the females the latter rarely flying, while the males are often seen circling in flight in considerable numbers over the spot where the female may be.

As the males are the more abundant and as they present structural characters by which they may be distinguished, the following table is based on that sex alone.

Anterior tibiæ tridentate.

Body above distinctly scaly; clypeus trisinate.....**Hammondi.**

Elytra with scale-like hairs; clypeus truncate.....**cavifrons.**

Anterior tibiæ bidentate.

Clypeus trisinate, the lateral angles distinct.

Head and thorax with moderately long erect hairs and very few scales.

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Head and thorax scaly with short hairs only.....**decemlineata.**

Clypeus truncate or arcuate, the angles not prominent.

Elytra distinctly vittate.....**occidentalis.**

Elytra with irregularly placed denser spots.....**variolosa.**

Anterior tibiæ with the outer apical angle alone prolonged. (That of the female bidentate).....**gracilis.**

P. Hammondi Lec., Journ. Acad. 1856, p. 228; *subvittata* Lec. loc. cit. p. 229.—Clypeus trisinate, the lateral angles prominent, vertex with short erect hairs. Thorax with few erect hairs in front, surface very sparsely scaly and with three denser vittæ, the median more distinct; hind angles either distinctly rectangular or obtuse. Elytra very sparsely scaly, the scales in indistinct vittæ, the sutural more dense. Body beneath clothed with moderately long fine yellowish hair, abdomen sparsely scaly, scales denser along the posterior borders of the segments. Length .96—1.16 inch; 24—29 mm.

Male.—Antennal club 7-lamellate, arcuate or sigmoid, more than twice as long as the stem. Anterior tibiæ tridentate, middle tibiæ bispinous on the outer edge, posterior tibiæ with two short oblique ridges.

Female.—Angles of clypeus not prominent. Antennæ short, the club not more than half the length of the stem, composed of fine joints forming a rather compact mass, the contiguous joint of the stem half as much prolonged as those of the club. Tibial characters as in the ♂.

The form *subvittata* differs only in having the elytral vittæ a little better marked.

Occurs in Kansas and northern Texas. For a specimen of the female which seems to be rare, I am indebted to Prof. F. H. Snow of Kansas.

P. cavifrons Lee., Proc. Acad. 1854, p. 222; Journ. Acad. 1856, p. 228.—Clypeus truncate in front, margin moderately reflexed, angles not prominent. Front flat coarsely punctured and with few, short, semi-erect hairs. Thorax with very few erect hairs in front, surface sparsely clothed with scale-like hairs which are denser in the median sulcus, lateral vittæ indistinct. Elytra sparsely clothed with scale-like hairs forming a subvittate appearance. Body beneath with moderately long hairs, abdomen with elongate scales sparsely placed. Length .96 inch; 24 mm.

Male.—As in the preceding species.

Female.—Unknown.

This species could be confounded with the preceding only. It has a somewhat more robust facies and differs in the form of the clypeus and the surface vestiture.

My specimen was collected at Ehrenberg, Arizona; those in Dr. Leconte's cabinet are from an uncertain locality in the same Territory.

P. decemlineata Say, Journ. Acad. iii, p. 246; Lee. loc. cit. 1856, p. 229.—Clypeus trisinate, sometimes feebly, the angles distinct. Vertex flat with few, short, semi-erect hairs, densely scaly at the sides. Thorax with a few erect hairs along the margin only, surface sparsely clothed with white scales, forming a denser vitta in the median impression and on each side. Scutellum densely scaly. Elytra scaly, the suture three nearly entire vittæ and a short subhumeral line densely clothed with white scales, the remainder of the surface sparsely clothed with scales which are often yellowish. Pygidium rather densely clothed with narrow elongate scales. Body beneath as in *Hammondi*. Length .96—1.44 inch; 24—36 mm.

Male.—Antennæ as in *Hammondi*. Anterior tibiæ bidentate. Middle and posterior tibiæ with one short spine a little below the middle.

Female.—Anterior tibiæ tridentate, middle and posterior each with two short spines on the outer edge. Antennal club 5-lamellate, a little longer than half the stem.

Specimens occasionally occur in which the vittæ are somewhat irregular or interrupted.

Occurs from Colorado westward to California.

P. crinita Lec., Journ. Acad. 1856, p. 230.—Very closely resembles the preceding species and differs in having moderately long, erect hairs on both the head and thorax. The latter has the usual scales replaced by very narrow scale-like hairs, even the three vittæ can hardly be called scaly. On the elytra the scales are also more hair-like while they form a style of ornamentation resembling that of *decemlineata*. Length .88—1.04 inch; 22—26 mm.

Sexual characters as in *decemlineata*.

This species appears to bear the same relation in the matter of vestiture to the preceding that *cavifrons* does to *Hammondi*.

Occurs in the Central Valley of California.

P. occidentalis Linn., Syst. Nat. ii, p. 555; Oliv. Ent. i, 5, p. 14; pl. 1, fig. 7; Burm. Handb. iv, 2, p. 408; Lec. loc. cit.—Clypeus truncate or slightly arcuate in front, the angles obtuse ♂ or rounded ♀. Head sparsely clothed with recumbent scale-like hairs. Thorax with median sulcus feeble, surface sparsely pubescent with the vittæ scarcely more distinct. Elytra sparsely clothed with recumbent pubescence, with the suture and three nearly entire (but feebly marked) vittæ more densely clothed, subhumeral short line absent. Pygidium pubescent and with rather long erect hairs. Body beneath with moderately long hairs, abdomen sparsely pubescent. Length .88—1.00 inch; 22—25 mm.

Male.—Sexual characters as in *deccmlineata*, with the spine on the outer side of the middle and posterior tibiæ very feeble.

Female.—As in *deccmlineata* except that there is but one short oblique ridge on the middle and posterior tibiæ, and the anterior tibiæ are bidentate as in the male.

This species is the only one in which the anterior tibiæ are known to be similarly dentate in the two sexes.

Occurs near the sea coast in the Southern States, my specimens are from near Wilmington, N. C. The females are said to be more abundant than the males, a fact at variance with the usual habit of the genus.

P. variolosa Hentz, Trans. Am. Philos. Soc. iii, p. 256, pl. 2, fig. 5; Lec. loc. cit. p. 231.—Clypeus arcuate or subtruncate, angles rounded. Head sparsely clothed with short erect hair. Thorax sparsely punctate and with few recumbent hairs forming a denser vitta in the deep median sulcus and indistinct vittæ at the sides. Elytra sparsely clothed with scale-like hairs denser along the suture and forming irregular patches in place of the vittæ of the preceding species. Pygidium sparsely pubescent. Body beneath with long hairs, abdomen sparsely and finely pubescent. Length .84—.90 inch; 21—23 mm.

Male.—Sexual characters of *occidentalis*.

Female.—Sexual characters of *deccmlineata*.

It will be observed that the females of all the species of this genus have a shorter clypeus than the male, but in this species the difference is more especially marked. The hind tibiæ are also broader in the females.

Occurs near the sea coast from Massachusetts to New Jersey.

P. gracilis n. sp.—Form rather slender, pale brownish testaceous. Clypeus truncate, angles prominent and sides convergent posteriorly ♂, or with angles rounded and sides divergent posteriorly ♀. Surface sparsely clothed with recumbent elongate scales. Thorax more than twice as wide as long, sides strongly arcuate at middle, margin crenulate, median impression of disc very feeble, surface sparsely clothed with whitish scale-like hairs forming three distinct denser vittæ. Elytra sparsely punctate and sparsely clothed with whitish elongate scales, a lateral denser vitta distinct, the disc with irregular spots forming two very indistinct vittæ. Body beneath with long hairs, abdomen sparsely pubescent. Pygidium sparsely pubescent. Length .74 inch; 19 mm.

Male.—Antennæ as in *variolosa*. Anterior tibiæ with the outer apical angle alone prolonged, middle and posterior tibiæ without trace of spine or oblique ridge at middle.

Female.—Antennæ as in *variolosa*. Anterior tibiæ bidentate externally, middle tibia with a very distinct oblique ridge, posterior with a feeble trace of ridge.

This species might be mistaken for a debilitated form of *variolosa*, but its more slender form and the sexual characters mark it as abundantly distinct.

Occurs near Jacksonville, Florida; collected by W. H. Ashmead.

Notes on ELATERIDÆ, CEBRIONIDÆ, RHIPICERIDÆ and DASCYLLIDÆ.

BY GEORGE H. HORN, M. D.

ELATERIDÆ.

The genera of the above family to which especial reference is made in the following pages, are those considered most closely allied to the Cibrionidæ, so close in fact that they may be considered as entirely filling the gap which has been supposed to exist between the two families.

The notes are necessarily short, full descriptions of the males having already been given, the females as far as known claim more attention and it is hoped that the accompanying figures will give a better idea of these remarkable insects than description alone.

The females of *Aplastus* and *Euthysanius* are remarkable in having the elytra shorter than the abdomen, but not equally so in all as will be seen by an examination of the figures.

In the former genus there are but six visible ventral segments while in *Euthysanius* there are seven. In the ♀ of *E. lautus* however, the abdomen is so extended by the completeness of the egg development, that the membranous segment which is usually subcoxal becomes visible and eight segments appear. In all the females there is a similarity on the dorsal surface of the abdomen, eight segments being quite distinctly visible. Nor is this number peculiar to the female, the male having the same but the segments are more membranous. In an examination of several other true Elateridæ the number of dorsal segments is eight, therefore the presence of this number in the females of *Euthysanius* and *Aplastus* must be dismissed from the category of remarkable characters.

APHRICUS Lee.

Front slightly concave, anteriorly slightly areolate, margined. Labrum short, transverse, emarginate and retracted, the suture distinct. Mandibles moderately prominent and toothed a little in front of middle. Maxillary palpi rather slender, the last three joints subequal, the terminal very little broader at tip. Antennæ slender not serrate, two-thirds as long as the body, eleven-jointed, last joint with a distinctly articulated short accessory piece, first joint obconical, slightly curved,